

REMARKS

In the Office Action mailed November 5, 2003 (paper no. 7), Claims 1, 2, 4, 8 – 10, 12, and 16 – 18 were rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Pat. Publ. No. 2003/0067687 (“Barton”) in view of U.S. Pat. No. 6,234,634 (“Hansen”) and Claims 27 and 28 were rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Pat. Publ. No. 2002/0186926 (“Hoose”) in view of Barton and Hansen. The rejections are respectfully traversed.

A rejection under §103(a) must be supported by a *prima facie* case of obviousness, which requires, *inter alia*, that there be some suggestion or motivation to combine reference teachings as proposed. MPEP 2143. The Court of Appeals for the Federal Circuit has repeatedly emphasized the need to apply the requirement that there be a motivation to combine references rigorously, cautioning that such rigor is “the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis.” *In re Dembiczaik*, 50 USPQ2d 1614, 1617 (Fed. Circ. 1999). “The need for specificity pervades this authority.” *In re Lee*, 61 USPQ2d 1430, 1433 (Fed Cir. 2002).

In this instance, the Office Action proposes to combine teachings drawn from references that are (1) directed at applications involving entirely different portions of the electromagnetic spectrum; and (2) directed at fundamentally contrary applications. First, in previous responses, Applicants have emphasized that the line density 1/a of the claimed grating is dictated by the wavelengths of relevant optical applications (*see* Amendment filed May 5, 2003, paper no. 4). The Examiner has acknowledged agreement with this characterization (Office Action mailed June 25, 2003, paper no. 5, ¶9). The claim range of 700 – 1100 mm⁻¹ is suitable for C-band telecommunications applications, which operate in the range of about 1530 – 1565 nm, although this may be extended by about 30 nm on either end of the range (*see* Application, p. 7, ll. 6 – 9). Hansen discloses an optical component that is instead intended for the visible portion of the spectrum (Hansen, Col. 1, ll. 6 – 9), which is generally taken to include about 400 – 700 nm and which is in a completely different portion of the spectrum. Hansen

itself acknowledges that its requirement of a line density (period p in Hansen) less than 0.21 µm (which is completely outside the range recited in the claim) is a consequence of its application to the visible portion of the spectrum (*id.*, Col. 17, ll. 28 – 31).

Second, while Barton is directed at a grating that is to be used for chromatic dispersion (Barton, ¶9), Hansen is directed at the entirely different application of a polarizing beam splitter (Hansen, Col. 1, ll. 6 – 9). Notably, Hansen teaches that its beam splitter acts to reflect one polarization of incident light and to transmit a complementary polarization, with that transmission being as entire as possible (*id.*, Col. 16, ll. 35 – 41). Complete transmission of a polarization component is completely contrary to the goal of Barton to limit polarization-dependent losses (*see, e.g.*, Barton, ¶¶ 13, 26, and 27, all of which comment on the need to have reflection properties be as insensitive as possible to polarization). A person of skill in the art would have no motivation to use a configuration designed to maximize the transmissive loss of a polarization component in a device intended to minimize polarization-dependent losses by being insensitive to polarization. The very different applications of Barton and Hansen clearly teach away from their combination, would require a change in their principles of operation, and would render them unsuitable for their intended purposes, all factors that are strongly indicative that there is no motivation to combine their teachings. MPEP 2143.01

For these reasons, Applicants believe that there is no motivation to combine Barton with Hansen as proposed in the Office Action. To summarize, Applicants believe that one of skill in the art would have no reason to modify a grating intended for a particular spectral range with teachings limited to a different spectral range and exhibiting undesirable polarization-transmission properties.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Appl. No. 09/992,849
Amdt. dated December 8, 2003
Reply to Office Action of November 5, 2003 (paper no. 7)

PATENT

Respectfully submitted,


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